

RED PALM OIL-BASED ICE CREAM

by: **W ROSNANI A ISA, MOHD SURIA AFFANDI YUSOFF,
AZMAN ISMAIL and ABDUL RAHMAN IBRAHIM**

JUNE 2001

137

MPOB TT No. 125

MPOB INFORMATION SERIES (formerly known as PORIM Information Series)

ISSN 1511-7871

Ice cream can be broken down into its basic ingredients such as fat, non-fat milk solid (NMS), sweetener, emulsifiers and stabilizers. Most of these ingredients will be multi-functional, contributing to different aspects of the ice cream manufacture, product quality and stability.

For various reasons, whether financial, functional or consumer preference, manufacturers must explore alternatives to the traditional sources of basic ice cream ingredients. The products of current interest aim to replace and reduce the calorific contribution made by the fat component in ice cream.

Palm-based products such as palm kernel oil and palm oil are alternative fats to replace milkfat. They are abundantly available, less expensive and have the added advantage of being cholesterol-free. Fats are usually used in ice cream at the level of 10% (W Rosnani and Nor Aini, 1996).

A new product from palm found to be suitable for making ice cream is red palm olein. Red palm olein is available in the market. It has a bland flavour and less than 0.1% of free fatty acids. It also contains high amounts of carotene (not less than 500 ppm) and vitamin E (800 ppm). Carotenes, which are the precursors of vitamin A, and vitamin E are major natural antioxidants (Choo *et al.*, 1993).

The ice cream produced from red palm oil, or blends with palm fractions, have a potential because of their natural vitamin content. The colour of ice cream can be either natural or synthetic to suit the flavour and appearance.

PRODUCTION OF RED PALM OIL-BASED ICE CREAM

The composition of red palm oil-based ice cream can be varied depending on the type of ice cream. Typical formulation of ice cream is 8% to 10% fat, 11% to 12% NMS, 10% to 12% sugar, 4% to 5% glucose syrup and 0.5% emulsifier/stabilizers.

The production of red palm oil-based ice cream is not much different than that of regular ice cream. Figure 1 shows the flow chart of processing of red palm oil-based ice cream. The colour of the ice cream is mainly contributed by the carotene. The carotene gives a yellowish colour to the ice cream. Slightly different yellowish colours in the ice cream can be made for different flavours with tropical fruit. The appearance of red palm oil-based ice cream is shown in Table 1.

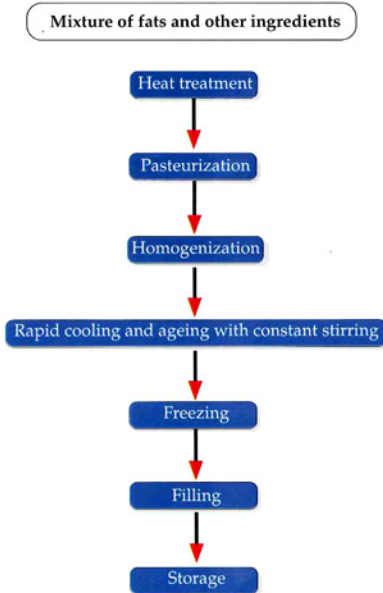


Figure 1. Flow chart of processing red palm oil-based ice cream.

ISSN 1511-7871



9 771511 787001

Malaysian Palm Oil Board, Ministry of Primary Industries, Malaysia

P. O. Box 10620, 50720 Kuala Lumpur, Malaysia. Tel: 03-89259155, 89259775, Homepage: <http://mpob.gov.my> Telefax: 03-89259446



TABLE 1. APPEARANCE OF RED PALM OIL-BASED ICE CREAM

Ice Cream	L	a	b	Description
S1	82.33	+4.97	+65.02	like orange colour.
S2	79.83	+5.44	+62.94	like orange colour.
S3	85.85	+0.90	+56.70	like yellow colour.
S4	88.52	-3.05	+36.80	like corn colour.
S5	85.82	+4.31	+60.35	like orange colour.
S6	83.80	+2.77	+57.25	like egg yolk colour.
S7	87.15	-0.74	+48.97	like sweet corn colour.
S8	90.81	-3.13	+25.72	like yellow colour.

Notes:

-a greenness +b yellowness
 +a redness -b blueness

BENEFITS OF RED PALM OIL-BASED ICE CREAM

- Increase market share for red palm oil-based products in the dairy industry;
- Beneficial for those who cannot tolerate lactose; and
- Red palm oil-based ice cream will enhance the stability and increase the shelf-life of the product during storage.

REFERENCES

CHOO, Y M; MA, A N; YAP, S C; OOI, C K and YUSOF BASIRON (1993). Production and application of deacidified and deodorized red palm oil. *Palm Oil Developments No. 19*: 30-35.

W ROSNANI, A I and NOR AINI, I (1996). Production of palm-based ice cream. *PORIM Bulletin No. 32*:17- 20.

For more information kindly contact:

Director-General
 MPOB
 P.O. Box 10620
 50720 Kuala Lumpur, Malaysia.
 Tel: 03-89259155, 89259775,
 Homepage: <http://mpob.gov.my>
 Telefax: 03-89259446